

Reesh

Work Order ID 113159

February-12-14 8:45:42 AM

113159

Page 1

Item ID: D3463-7

Accept

N900040100

Setup

Start *NS1*

Revision ID:

Item Name: Drag Arm

Start Date: 2/10/14

Start Qty: 400

4

Required Date: 2/10/14

Req'd Qty: 400

4

Cust Item ID:

Stop

NS2

Reference:

Approvals: Process Plan: MLJ

Date: 140214

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3463	Rev B

100

100

Small Fab

Small Fab

0.00

DAS
30
9-89

14-06-25

14/06/25

Memo

1-Cut to 13.875"

2-Deburr

3-Bend end as per dwg D3463

SPB
14/06/26

110

110

QC

Quality Control

0.00

6

120

120

Mill Conv

Conventional Milling Machine

0.00

5

1

J.C.L 14/06/30

Memo

1-Mill as per dwg D3463

2-Drill hole & ream to 0.4385" as per dwg D3463

3-Deburr

DQA:

OK

Date: 14/07/11

QA Closed:

OK

Date: 14/7/11



WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: 113139 Part No. D3463-7 NCR No. 14-4072				DISPOSITION		AGAINST DEPARTMENT/PROCESS									
				Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>							
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector						
Design	14/06/10	120	1	End mill gripped and twisted the piece QC. Feed + Speed too fast / operator error	DAS 16 9-89 Q2042 14/07/11	Scrap and destroy	J.L. 14/06/10 \$64.00	OK 14/07/02	DAS 16 9-89 Q2042 14/07/11						
FAULT CATEGORY															
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function						<input checked="" type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	

Work Order ID 113159

February-12-14 8:45:42 AM

113159

Page 2

Item ID: D3463-7

Revision ID:

Item Name: Drag Arm

Start Date: 2/10/14 Start Qty: 4.00

4

Required Date: 2/10/14 Req'd Qty: 4.00

4

Accept

N900040100

Setup Start

NS1

Stop

NS2

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC	QC2- Inspect parts off machine FAI/FAIB Quality Control	0.00				5	1		14/06/30 S/L/J.C.L.
140 *140* QC	QC8- Inspect parts - second check Quality Control	0.00				5	1		DAS 44 9-89 14/07/02
150 *150* Small Fab	Small Fab Grind .450" rad	0.00				5X			DAS 36 9-89 14/07/03

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS													
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>											
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>											
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>											
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>												
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector									
Design																		
Doc/Data																		
Equip/Tooling																		
Handling/Pre																		
Material																		
Operator																		
Offset/Setup																		
Process																		
Supplier																		
Training																		
Transport																		
Unapproved																		
FAULT CATEGORY																		
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function						<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence			<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled		<input type="checkbox"/> Other	

Work Order ID 113159

February-12-14 8:45:42 AM

113159

Page 3

Item ID: D3463-7

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Drag Arm

Start Date: 2/10/14 Start Qty: 4.00

4

Cust Item ID:

Required Date: 2/10/14 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

160

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

27

9.39

0.00

473

S

170

170

Packaging

Packaging

Identify as per dwg & Stock Location: W4W2

0.00

Memo

0.00

5 2 14-7-9

180

180

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

MLJ 14-0708

DR 14-7-8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY									
Landing Gear	General								
	Bending	Bend	Folio/Program	Outside Dimensions	Pressure/Forced				
	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Set-up				
	Cracks	Broken/Damage/Defect	Hardware	Part Incorrect	Temperature/Cure				
	Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld				
	Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled				
	Crushing	Countersink	Misaligned/off center	Positioned Wrong					
	Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge	Other				
	Inspection Strip in Tube	Drawing	Misread						
	Marks/Chatter	Drill Holes	Off-set						
	Turning Sequence	Finish	Out of Calibration						
	Wave/Twist in Tube	Fit/Function	Out of Sequence						

Picklist Print

February 12-14 8:45:45 AM

Page 1

Work Order ID: 113159

113159

Parent Item: D3463-7

D3463-7

Parent Item Name: Drag Arm

Start Date: 2/10/14

Required Date: 2/10/14

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV> A 05.11.18 new issue EC
 IPP Rev:B Added Step 7 08-11-04 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.750W.120		Purchased	No			100	f	41.7500	1.15625	4.868421			

M304TR0 750W 120

304 ss round tube .750 x .120w

FF14-06-25

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT017	41.75	
125656	41.75	7.302631

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

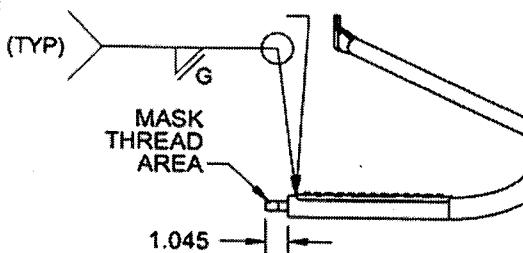
QA Closed: _____ Date: _____

Work Order update only

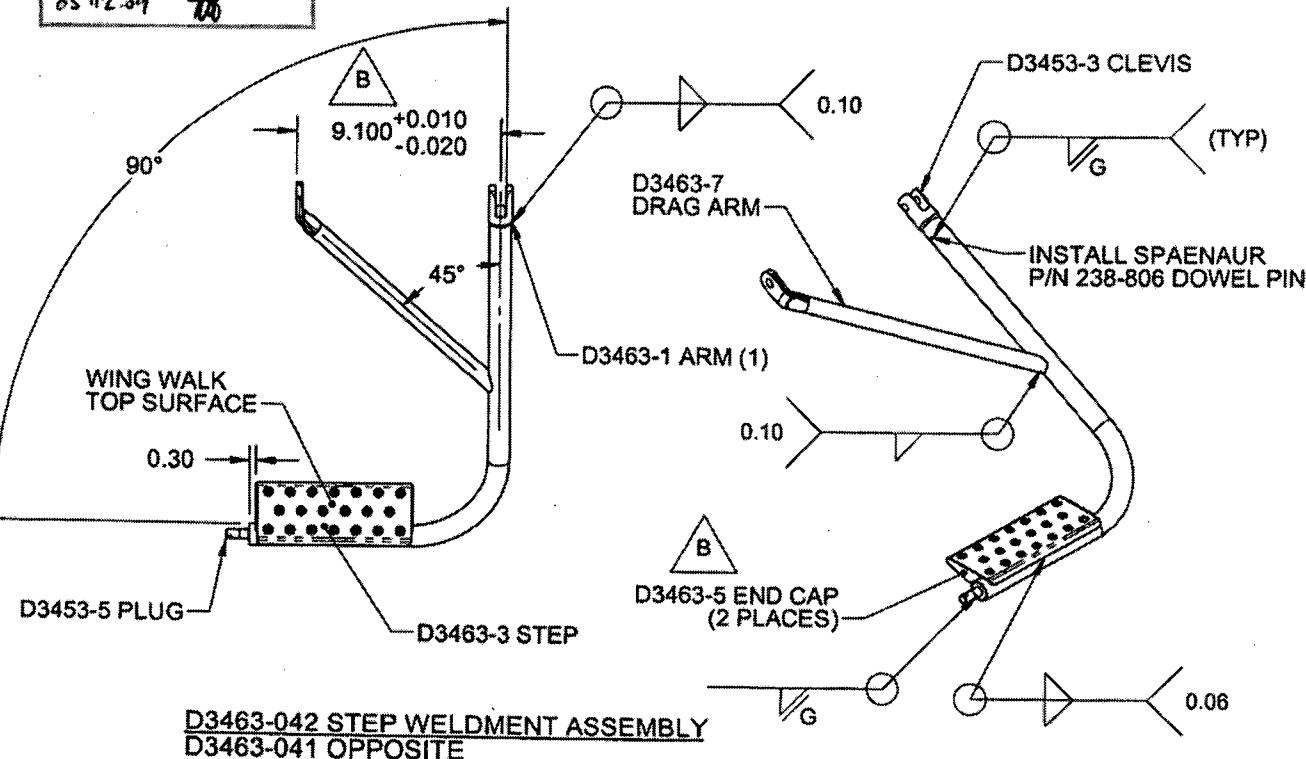
Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS							
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>					
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>					
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>					
			Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>						
Root Cause	Date	Step	Qty	Description of work order update or non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector	
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved												
FAULT CATEGORY												
Landing Gear Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Inspection Strip in Tube Marks/Chatter Turning Sequence Wave/Twist in Tube	General											
		Bend <input type="checkbox"/>	Folio/Program <input type="checkbox"/>			Outside Dimensions <input type="checkbox"/>						
		BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>			Pressure/Forced <input type="checkbox"/>						
		Broken/Damage/Defect <input type="checkbox"/>	Hardware <input type="checkbox"/>			Set-up <input type="checkbox"/>						
		Burrs <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>			Temperature/Cure <input type="checkbox"/>						
		Contamination <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>			Weld <input type="checkbox"/>						
		Countersink <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>			Wrong Stock Pulled <input type="checkbox"/>						
		Cut Too Short <input type="checkbox"/>	Misaligned/Off center <input type="checkbox"/>			Other <input type="checkbox"/>						
		Drawing <input type="checkbox"/>	Misread <input type="checkbox"/>									
		Drill Holes <input type="checkbox"/>	Off-set <input type="checkbox"/>									
		Finish <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>									
		Fit/Function <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>									

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED <i>RF</i>	APPROVED <i>RF</i>	DRAWING NO. D3463
DATE 05.12.05		REV. B SHEET 1 OF 4
		SCALE 1:8
A	05.09.20	NEW ISSUE
B	05.12.05	REVISE DIM.; D3463-5 WAS D3463-5F

INSTALL P/N 238-806
DOWEL PINCONCENTRIC HOLES
MASK HOLES

RELEASED

05.12.05 *RF***NOTES:**

- 1) WELD PER DART QSI 004
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

*1-20-05
CNC
11-15-05
11-15-05*

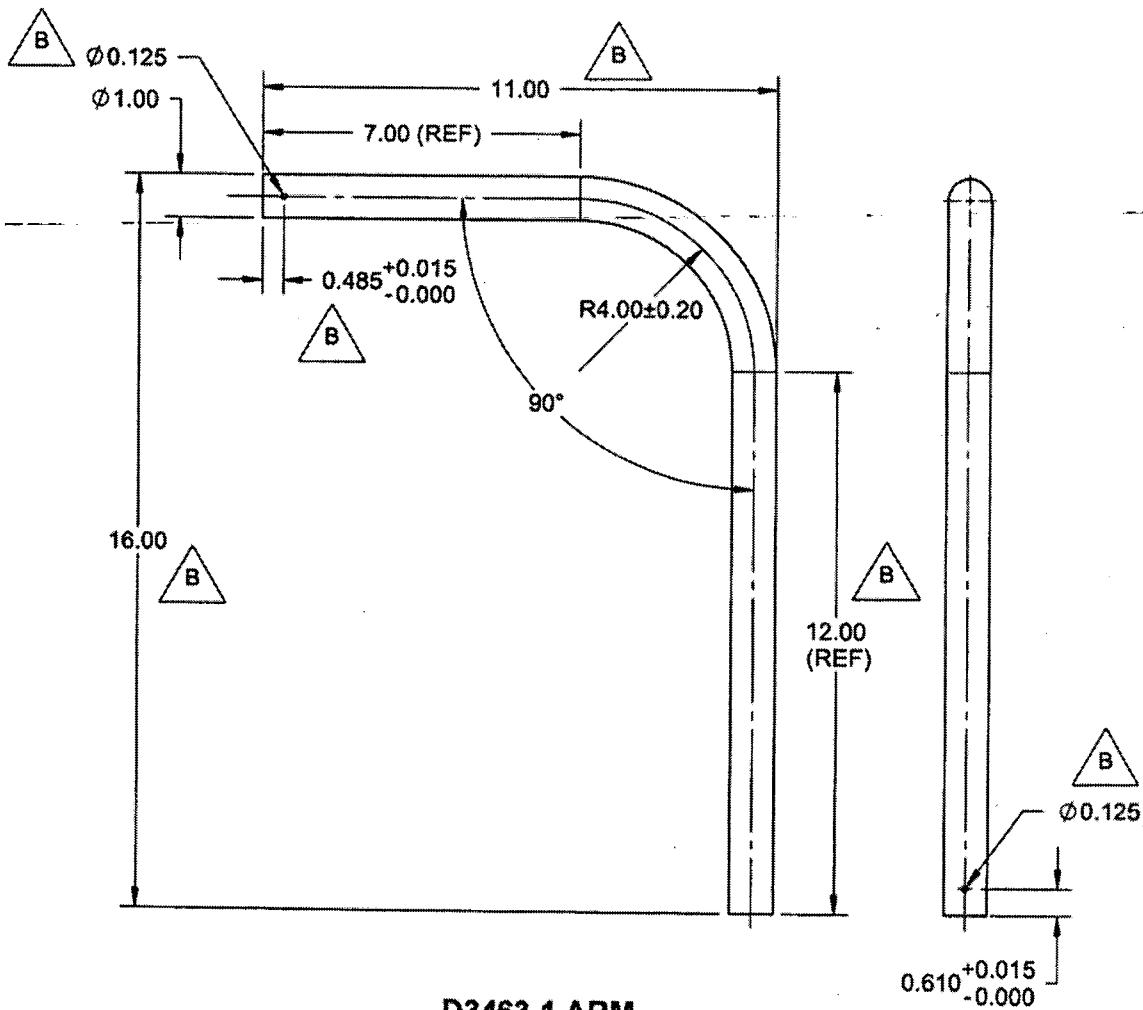
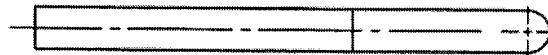
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DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[initials]</i>	APPROVED <i>[initials]</i>	DRAWING NO. D3463	REV. B SHEET 2 OF 4
DATE 05.12.05	TITLE STEP WELDMENT	SCALE 1:4	

RELEASED

05.12.09 *[initials]***D3463-1 ARM****NOTES:**

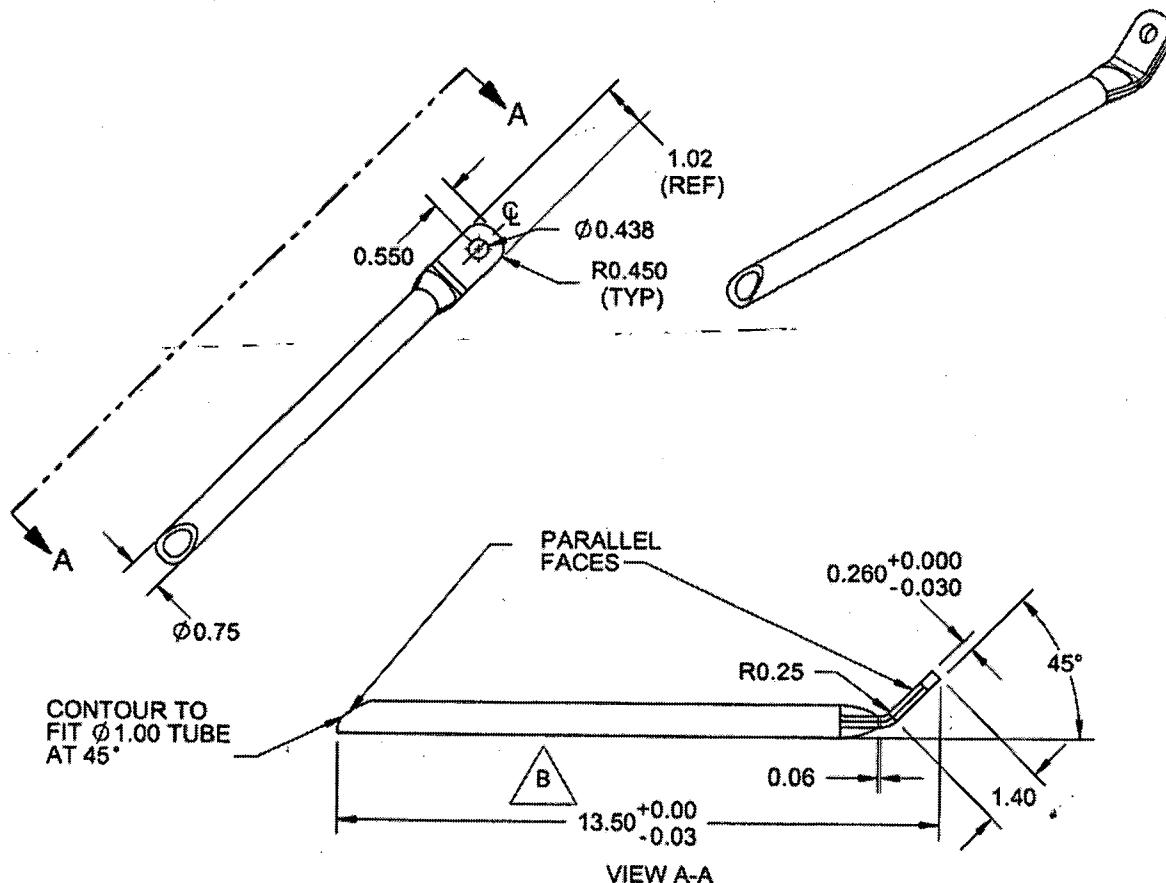
- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR1.000W.120)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.025

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DART

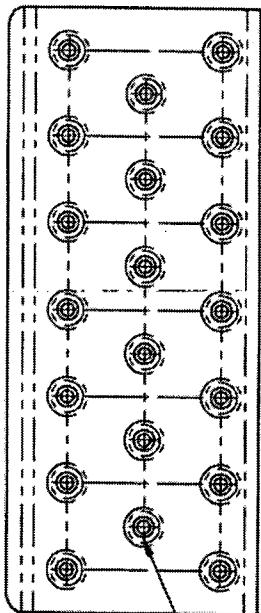
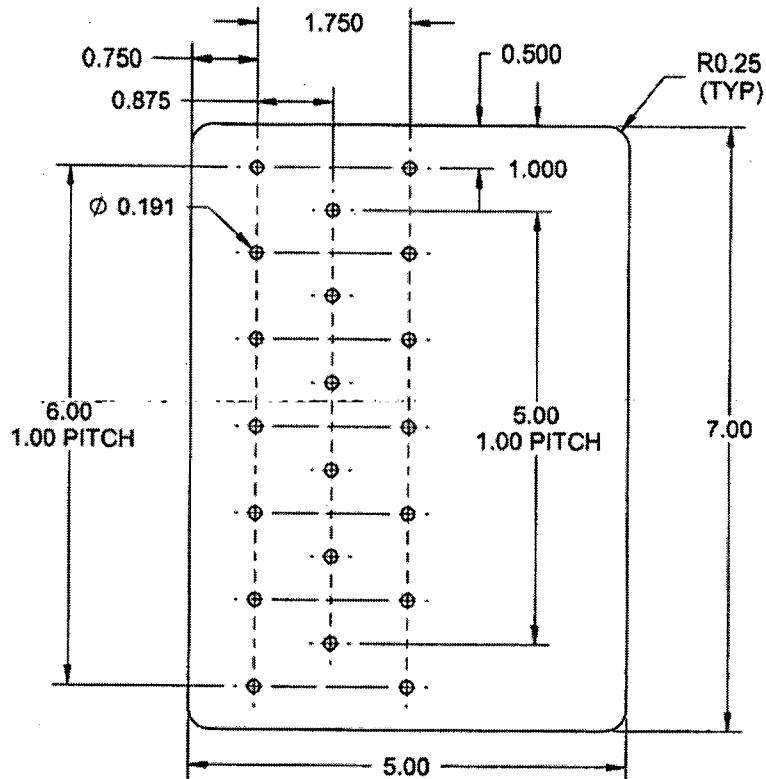
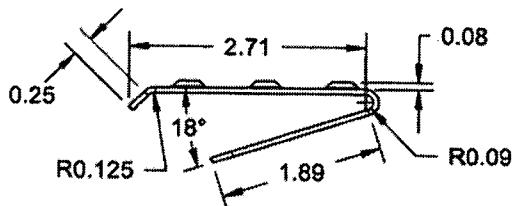
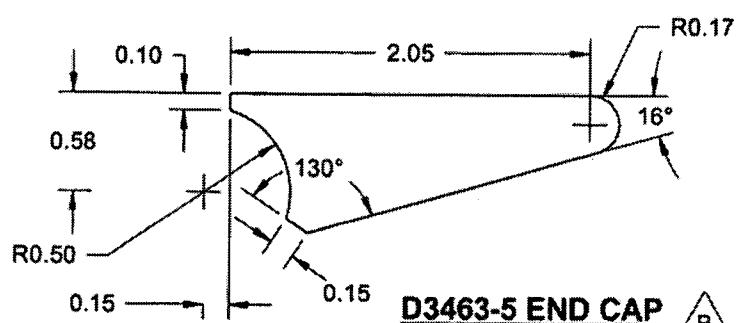
DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>RF</i>	APPROVED <i>RF</i>	DRAWING NO. D3463	REV. B SHEET 3 OF 4
DATE 05.12.05	TITLE STEP WELDMENT	SCALE 1:4	

RELEASED05.12.05 *RF***D3463-7 DRAG ARM****NOTES:**

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR0.750W.120)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3463	REV. B SHEET 4 OF 4
DATE 05.12.05		TITLE STEP WELDMENT	SCALE 1:2

RELEASED05.12.05 *#*FORM USING
D3463-3T1**D3463-3F FLAT PATTERN****D3463-3 STEP****D3463-5 END CAP**

SCALE 1:1

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.060 THICK (REF. DART SPEC. M304S16GA)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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Description: Drop Arm

Work Order: 113759

Inspection Drawing: D 3463

Rev: B

Part Number: D 346 3-F

INSPECTION SHEET

Measured by: DAS 30 9.89	Checked By: DAS 36 9.89	QC inspector: SA	Engineering Approval (if necessary)
Date 14/06/25	Date 14/06/25	Date 14/06/26	Date

DART AEROSPACE LTD	Work Order:	113 159
Description: Drag Arm	Part Number:	D3463-7
Inspection Dwg:	Rev: B.	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

DAS

Measured by: <u>J.C.L./32</u>	Audited by: <u>44 9-89</u>	Preliminary Approval:
Date: <u>14/06/30</u>	Date: <u>14/07/02</u>	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15